

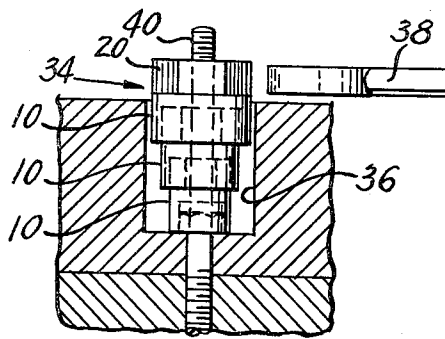
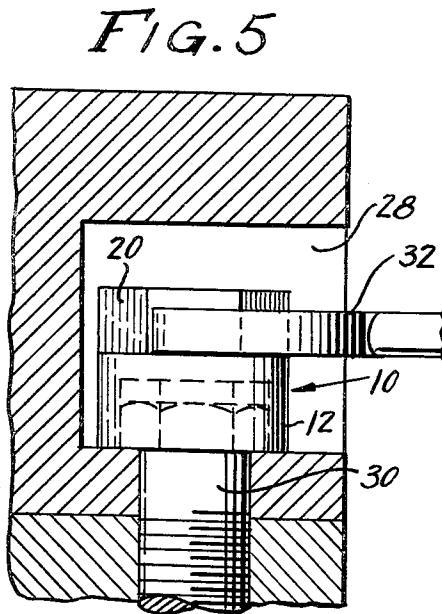
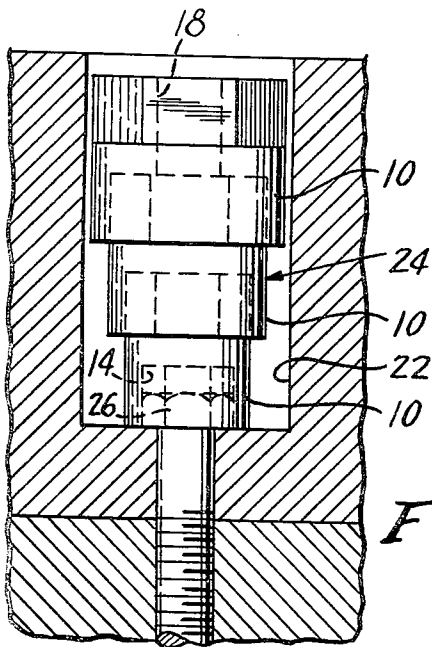
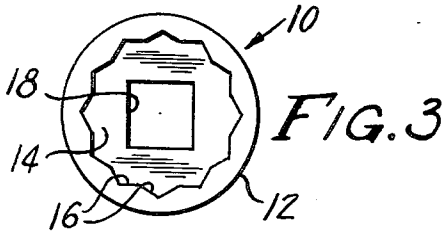
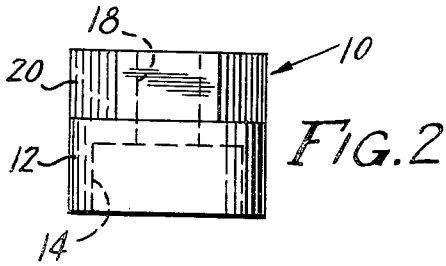
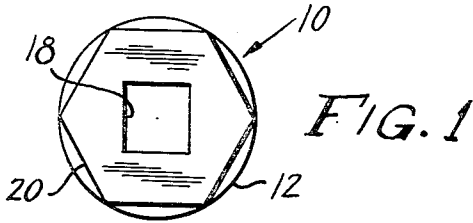
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WRENCH SOCKET SET

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WRENCH SOCKET SET

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1 Claim. (Cl. 81-185)

This invention relates to wrench sockets, and it more particularly relates to wrench sockets which are adapted to be used with a variety of types of wrenches.

The conventional type of wrench sockets heretofore used comprised cylindrical bodies undercut to form the socket and provided with a square bore to form a socket wrench reception means. However, such prior sockets could not be readily used where the working area did not provide a sufficient amount of overhead room to permit use of the ordinary socket handle or ratchet handle. In addition, difficulty was often encountered in obtaining sufficient leverage from a socket or ratchet handle. Another difficulty often encountered was the use of the socket in conjunction with a bolt or the like which extended through the bore of the socket.

It is one object of the present invention to overcome the aforementioned as well as other difficulties and disadvantages of the prior art by providing a wrench socket set which can be easily used in confined areas with little overhead room, which is readily adapted for the attainment of a maximum amount of leverage and which is utilizable even when applied over a bolt or the like which extends therethrough.

Another object of the present invention is to provide a wrench socket set of the aforesaid type which is relatively simple in construction and inexpensive to replace.

Another object of the present invention is to provide a wrench socket of the aforesaid type which is utilizable, with a maximum of leverage, in deep crevices or openings.

Other objects of the present invention are to provide an improved wrench socket, of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

FIG. 1 is a top plan view of a wrench socket embodying the present invention.

FIG. 2 is a side elevational view of the socket shown in FIG. 1.

FIG. 3 is a bottom view of the socket shown in FIG. 2.

FIG. 4 is a sectional view of a body having a deep recess therein and a socket assembly embodying the present invention being shown, in elevation, in operative position in the recess.

FIG. 5 is a side elevational view of a socket embodying the present invention shown in a confined area with little overhead room, the confined area being encompassed by a body shown in section.

FIG. 6 is a side elevational view of a socket assembly embodying the present invention, used in conjunction with an upstanding bolt extending therethrough, and in operative position within a recess formed in a body shown in section.

Referring in greater detail to the drawing wherein similar reference characters refer to similar parts, there is shown a wrench socket, generally designated 10, comprising a cylindrical body 12 having an undercut recess 14. The recess 14 is defined by a toothed or corrugated internal wall 16.

The upper portion of the body 12 is provided with an

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internal bore 18 of much smaller diameter than the recess 14 and of square cross-section (as best shown in FIGS. 1 and 3). The external periphery of the upper portion 12 is of hexagonal configuration as indicated at 20.

By means of the above-described construction, there is provided a socket which can be actuated by either a socket wrench fitting into the bore 18 or by an external wrench engaging the hexagonal portion 20. Examples of such external wrenches are the box end, open end, crescent and ratchet wrenches. For the purposes of this invention, it is immaterial what types of internal or external wrenches are used so long as they perform the desired functions.

With a wrench socket of the type described above, when a maximum leverage is desired, two wrenches may be used. One of these wrenches would be an internal type fitting into bore 18 and the other would be an external type engaging the hexagonal portion 20.

Where the socket is to be used as a wrench within a deep recess, such as shown at 22 in FIG. 4, a number of sockets 10, each of a decreasing size, are used in assembly. In this assembly, generally designated 24, each smaller socket is of a size to just fit into the undercut recess 14 of the next larger socket and to be engaged by the teeth 16 thereof. The recess 14 of the lowermost socket of the assembly is of a size to frictionally engage its teeth 16 with the head of the bolt 26 extending into the bottom of the recess 22. At the same time, the bore 18 of the uppermost socket 10 is positioned at the upper end of recess 22 where it can be easily engaged by the proper type of internal wrench.

In FIG. 5, there is shown an area 28 which does not provide sufficient overhead room for the effective use of an internal type wrench. In such case, the socket 10, while engaged over the head of bolt 30, may be manipulated by an external wrench, such as shown at 32, which engages the hexagonal portion 20 of the socket 10.

In FIG. 6 there is shown a socket assembly 34 comprising a series of decreasingly-sized sockets 10, each engaged in the undercut recess of the next larger socket, in similar manner to the assembly 24 shown in FIG. 4. In FIG. 6, the socket assembly 34 is positioned within a recess 36 similar to that shown in FIG. 4. However, the recess 36 is not as deep as recess 22 so that the hexagonal portion 20 of the uppermost socket 10 is accessible for engagement by an external wrench indicated at 38.

In addition to projecting above the recess 36, the assembly 34 is arranged to receive an elongated, upstanding bolt 40. This bolt 40 extends through the internal bores 18 of all the sockets 10 in the assembly 34, these bores being in alignment with each other. Such bolt as shown at 40 would ordinarily preclude the use of wrench sockets of the common type, however, it does not interfere with the assembly 34 since this assembly can be effectively manipulated by the external wrench 38.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

A wrench socket set comprising a plurality of individually separate related sockets of progressively different size, each socket having a generally cylindrical body, an undercut recess in one end of said body, said recess being defined by a corrugated internal wall, an internal socket bore in the opposite end of said body, and an external polygonal portion circumferential of said opposite end of

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said body, said polygonal circumferential portion being coaxial with said internal socket bore and being adapted to be engaged by an external wrench, said plurality of said sockets being interengageable in a co-axial assembly, said sockets being of decreasing size from one end of said assembly to the other end with each smaller socket being engageable at its polygonal circumferential portion within said corrugated internal wall of said undercut recess of the next larger socket in the assembly.

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